

CLAIMS

What is claimed is:

1 1. A wireless mobile phone comprising:
2 a body casing having a front surface;
3 a transceiver send and receive signals including alphanumeric data;
4 a vibrator coupled to said body casing to vibrate said wireless mobile
5 phone; and
6 means coupled to said vibrator and said transceiver for vibrationally
7 outputting received alphanumeric data through vibrational manifestation of the
8 received alphanumeric data using the vibrator.

1 2. The wireless mobile phone of claim 1, wherein said means for vibrationally
2 outputting received alphanumeric data comprises means for outputting Morse
3 code representations of the received alphanumeric data.

1 3. The wireless mobile phone of claim 1, wherein said vibrator is disposed
2 within said body casing.

1 4. The wireless mobile phone of claim 1, wherein said means for vibrationally
2 outputting received alphanumeric data comprises means for vibrationally
3 outputting alphanumeric data received via said transceiver.

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1 5. The wireless mobile phone of claim 1, further comprising an input keypad
2 disposed on said front surface of said body casing to facilitate entry of
3 alphanumeric data, and wherein said means for vibrationally outputting received
4 alphanumeric data comprise means for vibrationally outputting alphanumeric
5 data received via said input keypad.

1 6. A wireless mobile phone comprising:
a body casing;
3 a transceiver to send and receive signals including alphanumeric data;
4 a vibrator coupled to said body casing to vibrate said wireless mobile
5 phone;
6 a storage medium having stored therein a plurality of programming
7 instructions, which when executed cause the wireless mobile phone to
8 vibrationally output received alphanumeric data through vibrational manifestation
9 of the received alphanumeric data using the vibrator; and
10 an execution unit coupled to the storage medium for executing the
11 plurality of programming instructions.

1 7. The wireless mobile phone of claim 6, further comprising a switch coupled
2 to said vibrator for switching between a first vibrational operating mode wherein
3 said wireless mobile phone vibrationally outputs received alphanumeric data,
4 and a second non-vibrational mode wherein said wireless mobile phone visually
5 outputs received alphanumeric data.

1 8. The wireless mobile phone of claim 6, wherein said plurality of
2 programming instructions comprises programming instructions, which when
3 executed cause the wireless mobile phone to vibrationally output Morse code
4 representations of the received alphanumeric data.

1 9. In a wireless mobile phone, a method comprising:
2 receiving signals representing alphanumeric data;
3 determining if the mobile phone is operating in a vibrational output mode;
4 and
5 identifying vibrational representations of at least a portion of the
6 alphanumeric data and outputting the vibrational representations if the mobile
7 phone is operating in a vibrational output mode.

1 10. The method of claim 9, further comprising visually outputting the
2 alphanumeric data if the mobile phone is operating in a non-vibrational output
3 mode.

1 11. The method of claim 9, further comprising:
2 vibrationally outputting Morse code representations of said alphanumeric
3 data if the mobile phone is operating in the vibrational output mode.

1 12. A wireless pager comprising:

2 a receiver to receive signals;
3 a body casing;
4 a vibrator coupled to said body casing to vibrate said wireless pager; and
5 means coupled to said vibrator and said receiver for vibrationally
6 outputting alphanumeric data received via said receiver through vibrational
7 manifestation of the received alphanumeric data using the vibrator.

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1 13. The wireless pager of claim 12, further comprising a transmitter to transmit
2 signals.

1 14. The wireless pager of claim 12, further comprising means coupled to said
2 vibrator for switching between a first vibrational operating mode wherein said
3 wireless pager vibrationally outputs received alphanumeric data, and a second
4 non-vibrational mode wherein said wireless pager visually outputs received
5 alphanumeric data.

1 15. The wireless pager of claim 12, wherein said means for vibrationally
2 outputting alphanumeric data comprises means for vibrationally outputting
3 alphanumeric data through vibrational manifestation of the Morse code
4 representations of the alphanumeric data.

1 16. The wireless pager of claim 12, wherein said vibrator is disposed within
2 said body casing.

1 17. A wireless pager comprising:
2 a receiver to receive signals;
3 a body casing;
4 a vibrator coupled to said body casing to vibrate said wireless pager;
5 a storage medium having stored therein a plurality of programming
6 instructions, which when executed cause the wireless pager to vibrationally
7 output received alphanumeric data through vibrational manifestation of the
8 received alphanumeric data using the vibrator; and
9 an execution unit coupled to the storage medium for executing the
10 plurality of programming instructions.

1 18. The wireless pager of claim 17, further comprising a switch coupled to
2 said vibrator for switching between a first vibrational operating mode wherein
3 said wireless pager vibrationally outputs received alphanumeric data, and a
4 second non-vibrational mode wherein said wireless pager visually outputs
5 received alphanumeric data.

1 19. The wireless pager of claim 17, wherein said plurality of programming
2 instructions comprises programming instructions, which when executed cause
3 the wireless pager to vibrationally output Morse code representations of the
4 received alphanumeric data.

1 20. In a wireless pager, a method comprising:

2 receiving signals representing alphanumeric data;
3 determining if the wireless pager is operating in a vibrational output mode;
4 and
5 identifying vibrational representations of at least a portion of the
6 alphanumeric data and outputting the vibrational representations if the wireless
7 pager is operating in a vibrational output mode.

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1 21. The method of claim 20, further comprising visually outputting the
2 alphanumeric data if the wireless pager is operating in a non-vibrational output
3 mode.

1 22. The method of claim 20, further comprising:
2 vibrationally outputting Morse code representations of said alphanumeric
3 data if the wireless pager is operating in the vibrational output mode.

1 23. A PDA comprising:
2 a receiver to receive signals;
3 a body casing having front surface;
4 a vibrator coupled to said body casing to vibrate said PDA; and
5 means coupled to said vibrator and to said receiver for vibrationally
6 outputting alphanumeric data received via said receiver through vibrational
7 manifestation of the received alphanumeric data using the vibrator.

1 24. The PDA of claim 23, wherein said means for vibrationally outputting
2 alphanumeric data comprises means for vibrationally outputting alphanumeric
3 data through vibrational manifestation of the Morse code representations of the
4 alphanumeric data.

1 25. The PDA of claim 23, wherein said vibrator is disposed within said body
2 casing.

1 26. The PDA of claim 23, further comprising an input keypad disposed on said
2 front surface of said body casing to facilitate entry of alphanumeric data, and
3 wherein said means for vibrationally outputting received alphanumeric data
4 comprise means for vibrationally outputting alphanumeric data received via said
5 input keypad.

1 27. A PDA comprising:
2 a receiver to receive signals;
3 a body casing having front surface;
4 a vibrator coupled to said body casing to vibrate said PDA;
5 a storage medium having stored therein a plurality of programming
6 instructions, which when executed cause the PDA to vibrationally output
7 received alphanumeric data through vibrational manifestation of the received
8 alphanumeric data using the vibrator; and

9 an execution unit coupled to the storage medium for executing the
10 plurality of programming instructions.

1 28. The PDA of claim 27, further comprising a switch coupled to said vibrator
2 for switching between a first vibrational operating mode wherein said PDA
3 vibrationally outputs received alphanumeric data, and a second non-vibrational
4 mode wherein said PDA visually outputs received alphanumeric data.

1 29. The PDA of claim 27, wherein said plurality of programming instructions
2 comprises programming instructions, which when executed cause the PDA to
3 vibrationally output Morse code representations of the received alphanumeric
4 data.

1 30. In a PDA, a method comprising:
2 receiving signals representing alphanumeric data;
3 determining if the mobile phone is operating in a vibrational output mode;
4 and
5 identifying vibrational representations of at least a portion of the
6 alphanumeric data and outputting the vibrational representations if the PDA is
7 operating in a vibrational output mode.

1 31. The method of claim 30, further comprising visually outputting the
2 alphanumeric data if the PDA is operating in a non-vibrational output mode.

1 32. The method of claim 30, further comprising:
2 vibrationally outputting Morse code representations of said alphanumeric data if
3 the PDA is operating in the vibrational output mode.

1 33. A wireless communication device comprising:
2 a receiver to receive signals;
3 a body casing;
4 a vibrator coupled to said body casing to vibrate said wireless
5 communication device;
6 a storage medium having stored therein a plurality of programming
7 instructions, which when executed cause the wireless communication device to
8 vibrationally output received alphanumeric data through vibrational manifestation
9 of the received alphanumeric data using the vibrator; and
10 an execution unit coupled to the storage medium for executing the
11 plurality of programming instructions.

1 34. The wireless communication device of claim 33, wherein the vibrator
2 causes wireless communication device to vibrate at multiple distinct frequencies,
3 wherein vibrations at each frequency are user distinguishable.

1 35. The wireless communication device of claim 34, wherein the vibrator
2 causes the wireless communication device to vibrate at any two of the multiple

3 frequencies so as to generate Morse code based vibrational representations of
4 the received alphanumeric data.

1 36. The wireless communication device of claim 33, wherein the vibrator causes
2 wireless communication device to vibrate for multiple distinct durations wherein
3 each vibrational duration is user-distinguishable.

1 37. The wireless communication device of claim 36, wherein the vibrator
2 causes the wireless communication device to vibrate at any two of the multiple
3 distinct durations so as to generate Morse code based vibrational
4 representations of the received alphanumeric data.

1 38. In a wireless communication device, a method comprising:
2 receiving signals representing alphanumeric data;
3 determining if the wireless communication device is operating in a
4 vibrational output mode; and
5 identifying vibrational representations of at least a portion of the
6 alphanumeric data and outputting the vibrational representations if the wireless
7 communication device is operating in a vibrational output mode.